

Radio Shack
Model III

Cat. No. 26-1974

SUCCESS WITH MATH™

Comprehensive, self-paced math tutorial.

Quadratic Equations

Requires 48K



CBS
SOFTWARE

TERMS AND CONDITIONS OF SALE AND LICENSE OF RADIO SHACK
COMPUTER EQUIPMENT AND SOFTWARE PURCHASED FROM A
RADIO SHACK COMPANY-OWNED COMPUTER CENTER, RETAIL
STORE OR FROM A RADIO SHACK FRANCHISEE OR DEALER AT ITS
AUTHORIZED LOCATION

LIMITED WARRANTY

I. CUSTOMER OBLIGATIONS

- A CUSTOMER assumes full responsibility that this Radio Shack computer hardware purchased (the "Equipment"), and any copies of Radio Shack software included with the Equipment or licensed separately (the "Software") meets the specifications, capacity, capabilities, versatility, and other requirements of CUSTOMER
- B CUSTOMER assumes full responsibility for the condition and effectiveness of the operating environment in which the Equipment and Software are to function, and for its installation

II. RADIO SHACK LIMITED WARRANTIES AND CONDITIONS OF SALE

- A For a period of ninety (90) calendar days from the date of the Radio Shack sales document received upon purchase of the Equipment, RADIO SHACK warrants to the original CUSTOMER that the Equipment and the medium upon which the Software is stored is free from manufacturing defects. THIS WARRANTY IS ONLY APPLICABLE TO PURCHASES OF RADIO SHACK EQUIPMENT BY THE ORIGINAL CUSTOMER FROM RADIO SHACK COMPANY-OWNED COMPUTER CENTERS, RETAIL STORES AND FROM RADIO SHACK FRANCHISEES AND DEALERS AT ITS AUTHORIZED LOCATION. The warranty is void if the Equipment's case or cabinet has been opened, or if the Equipment or Software has been subjected to improper or abnormal use. If a manufacturing defect is discovered during the stated warranty period, the defective Equipment must be returned to a Radio Shack Computer Center, a Radio Shack retail store, participating Radio Shack franchisee or Radio Shack dealer for repair, along with a copy of the sales document or lease agreement. The original CUSTOMER'S sole and exclusive remedy in the event of a defect is limited to the correction of the defect by repair, replacement, or refund of the purchase price, at RADIO SHACK'S election and sole expense. RADIO SHACK has no obligation to replace or repair expendable items.
- B RADIO SHACK makes no warranty as to the design, capability, capacity, or suitability for use of the Software, except as provided in this paragraph. Software is licensed on an "AS IS" basis, without warranty. The original CUSTOMER'S exclusive remedy, in the event of a Software manufacturing defect, is its repair or replacement within thirty (30) calendar days of the date of the Radio Shack sales document received upon license of the Software. The defective Software shall be returned to a Radio Shack Computer Center, a Radio Shack retail store, participating Radio Shack franchisee or Radio Shack dealer along with the sales document.
- C Except as provided herein no employee, agent, franchisee, dealer or other person is authorized to give any warranties of any nature on behalf of RADIO SHACK.
- D Except as provided herein: **RADIO SHACK MAKES NO WARRANTIES, INCLUDING WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE.**
- E Some states do not allow limitations on how long an implied warranty lasts, so the above limitation(s) may not apply to CUSTOMER.

III. LIMITATION OF LIABILITY

- A EXCEPT AS PROVIDED HEREIN, RADIO SHACK SHALL HAVE NO LIABILITY OR RESPONSIBILITY TO CUSTOMER OR ANY OTHER PERSON OR ENTITY WITH RESPECT TO ANY LIABILITY, LOSS OR DAMAGE CAUSED OR ALLEGED TO BE CAUSED DIRECTLY OR INDIRECTLY BY "EQUIPMENT" OR "SOFTWARE" SOLD, LEASED, LICENSED OR FURNISHED BY RADIO SHACK, INCLUDING, BUT NOT LIMITED TO, ANY INTERRUPTION OF SERVICE, LOSS OF BUSINESS OR ANTICIPATORY PROFITS OR CONSEQUENTIAL DAMAGES RESULTING FROM THE USE OR OPERATION OF THE "EQUIPMENT" OR "SOFTWARE" IN NO EVENT SHALL RADIO SHACK BE LIABLE FOR LOSS OF PROFITS, OR ANY INDIRECT, SPECIAL, OR CONSEQUENTIAL DAMAGES ARISING OUT OF ANY BREACH OF THIS WARRANTY OR IN ANY MANNER ARISING OUT OF OR CONNECTED WITH THE SALE, LEASE, LICENSE, USE OR ANTICIPATED USE OF THE "EQUIPMENT" OR "SOFTWARE".

continued

NOTWITHSTANDING THE ABOVE LIMITATIONS AND WARRANTIES, RADIO SHACK'S LIABILITY HEREUNDER FOR DAMAGES INCURRED BY CUSTOMER OR OTHERS SHALL NOT EXCEED THE AMOUNT PAID BY CUSTOMER FOR THE PARTICULAR EQUIPMENT OR SOFTWARE INVOLVED.

- B. RADIO SHACK shall not be liable for any damages caused by delay in delivering or furnishing Equipment and/or Software.
- C. No action arising out of any claimed breach of this Warranty or transactions under this Warranty may be brought more than two (2) years after the cause of action has accrued or more than four (4) years after the date of the Radio Shack sales document for the Equipment or Software, whichever first occurs.
- D. Some states do not allow the limitation or exclusion of incidental or consequential damages, so the above limitation(s) or exclusion(s) may not apply to CUSTOMER.

IV. RADIO SHACK SOFTWARE LICENSE

RADIO SHACK grants to CUSTOMER a non-exclusive, paid-up license to use the RADIO SHACK Software on **one** computer, subject to the following provisions:

- A. Except as otherwise provided in this Software License, applicable copyright laws shall apply to the Software.
- B. Title to the medium on which the Software is recorded (cassette and/or diskette) or stored (ROM) is transferred to CUSTOMER, but not title to the Software.
- C. CUSTOMER may use Software on one host computer and access that Software through one or more terminals if the Software permits this function.
- D. CUSTOMER shall not use, make, manufacture, or reproduce copies of Software except for use on **one** computer and as is specifically provided in this Software License. Customer is expressly prohibited from disassembling the Software.
- E. CUSTOMER is permitted to make additional copies of the Software **only** for backup or archival purposes or if additional copies are required in the operation of **one** computer with the Software, but only to the extent the Software allows a backup copy to be made. However, for TRS800S Software, CUSTOMER is permitted to make a limited number of additional copies for CUSTOMER'S own use.
- F. CUSTOMER may resell or distribute unmodified copies of the Software provided CUSTOMER has purchased one copy of the Software for each one sold or distributed. The provisions of this Software License shall also be applicable to third parties receiving copies of the Software from CUSTOMER.
- G. All copyright notices shall be retained on all copies of the Software.

V. APPLICABILITY OF WARRANTY

- A. The terms and conditions of this Warranty are applicable as between RADIO SHACK and CUSTOMER to either a sale of the Equipment and/or Software License to CUSTOMER or to a transaction whereby RADIO SHACK sells or conveys such Equipment to a third party for lease to CUSTOMER.
- B. The limitations of liability and Warranty provisions herein shall inure to the benefit of RADIO SHACK, the author, owner and/or licensor of the Software and any manufacturer of the Equipment sold by RADIO SHACK.

VI. STATE LAW RIGHTS

The warranties granted herein give the **original** CUSTOMER specific legal rights, and the **original** CUSTOMER may have other rights which vary from state to state.

Success with Math™
Quadratic
Equations
User's Manual

Radio Shack®
A DIVISION OF TANDY CORPORATION
FORT WORTH, TEXAS 76102

Program:
© 1983 MicroComputer Workshops
Written by Don Ross
Licensed to Tandy Corporation.
All Rights Reserved.

TRSDOS 1.3
© 1980, Tandy Corporation.
All Rights Reserved.

All portions of this software are copyrighted and are the proprietary and trade secret information of Tandy Corporation and/or its licensor. Use, reproduction or publication of any portion of this material without the prior written authorization by Tandy Corporation is strictly prohibited.

Manual:
© 1983 CBS Software, A unit of CBS, Inc.
Licensed to Tandy Corporation.
All Rights Reserved.

Success with Math™ is a trademark of CBS Software, a unit of CBS, Inc.

Reproduction or use, without express written permission from Tandy Corporation and/or its licensor, of any portion of this manual is prohibited. While reasonable efforts have been taken in the preparation of this manual to assure its accuracy, Tandy Corporation assumes no liability resulting from any errors or omissions in this manual, or from the use of the information contained herein.

Program Objective

The Success with Math™ series provides an environment of personalized encouragement in which to learn math. The Quadratic Equations program designed for grade levels 9 to 12 provides comprehensive drill and practice solving quadratic equations using the factoring process. An understanding of factoring is emphasized along with procedures for setting each factor equal to zero and solving as separate equations. After you load the program, the program itself instructs you in how to proceed.

Required Equipment

- TRS-80® Model III with 48K

Starting the Program

We recommend that you make a copy of your program diskette and use the copy for your practice sessions. Backup instructions are included at the end of this manual if you are not familiar with this process. After making your backup of the program diskette, you can use the following steps each time you begin your program.

1. Turn on all peripherals connected to the computer and then turn on the computer.

2. Insert the working copy of the diskette into Drive 0 and close the drive door.
3. Press the RESET button. The AutoLoad function is engaged. After the copyright notice, the Quadratic Equations program begins. The program itself displays program operation instructions.

Program Description

All equations in the program are randomly generated in the form

$$AX^2 + BX + C = 0$$

where A, B, and C are integers. You may choose between two levels of difficulty. For easier problems, the coefficient of the quadratic term (A) is always 1. More difficult equations have a quadratic coefficient of 2 or 3.

The screen is divided into three sections: original equation, work area and message/instruction area. When each new equation is presented, the message/instruction area contains a main menu with three options. For example:

PROBLEM #1: $X^2 - 3X - 10 = 0$
Work Area

ENTER ONE OF THE FOLLOWING: (* TO QUIT)

- 1) DIVIDE BOTH SIDES BY A NUMBER
- 2) FACTOR THE LEFT SIDE
- 3) SET EACH FACTOR = 0 AND SOLVE

If the integers A, B, and C have a common factor, choose option 1. You are then asked to enter the number to be divided into each term. The equation is then simplified to reflect the results of the division.

After the equation is simplified or, as in the example, the integers A, B, and C do not have a common factor, choose option 2. You are then asked to enter the correct factors, one at a time, in the work area. If you enter incorrect factors, an error message appears along with the product of the incorrect factors to illustrate why the answer was wrong. You may then try a new pair of factors. If a second error is made, the program automatically branches to a tutorial section that explains in detail how to factor the quadratic expression.

After the correct factors are entered, the main menu reappears. You must then select option 3 to set each factor to zero and solve. A new menu containing the rules required for solving equations appears, and the screen now looks like this:

```

PROBLEM #1:          X2 - 3X - 10 = 0
Work Area            (X - 5) (X + 2) = 0
                    -----> X - 5 = 0
  
```

ENTER ONE OF THE FOLLOWING: (* TO QUIT)

- 1) ADD SAME NUMBER TO BOTH SIDES
- 2) SUBTRACT SAME NUMBER FROM BOTH SIDES
- 3) MULTIPLY BOTH SIDES BY SAME NUMBER
- 4) DIVIDE BOTH SIDES BY SAME NUMBER

Using these rules, you solve for X in each equation, step by step:

PROBLEM #1: $x^2 - 3x - 10 = 0$

$(x - 5) = 0$	$(x + 2) = 0$
$+ 5 \quad + 5$	$- 2 \quad = -2$
$x \quad = 5$	$x \quad = -2$

THAT IS CORRECT.

THESE ARE THE SOLUTIONS TO THE EQUATION.

All errors are immediately noted on the screen and explained. You may then try a new answer. Errors are divided into two categories: procedural and computational. Procedural errors involve the incorrect use of a rule. Computational errors involve a mistake in calculation. The program tracks the type and numbers of errors made and displays the totals on the screen after the solution is reached.

You must enter the correct answer for each step before the program continues to the next step in the solving process. You always succeed in solving the equation and know exactly where errors were made.

Other Programs in the Success with Math™ Series

Addition and Subtraction — Grade Levels 1 to 4

Multiplication and Long Division — Grade Levels
2 to 8

Linear Equations — Grade Levels 7 to 11

Backup Instructions

Never use your original program diskette for daily operations. Make a backup (copy) of this diskette and use the copy for your day-to-day practice sessions. Store the original in a safe place and use it **only** for making copies. The following steps explain how to make a copy of your program diskette.

1. Turn on any peripherals that are connected to the computer and then turn on your computer.
2. Place a new, blank diskette in Drive 1, and close the drive door.
3. Place a Model III TRSDOS system diskette in Drive 0 and close the drive door.
4. Press the reset button.
5. The screen shows:

Date MM/DD/YY ?

Enter the date. For example, for March 7, 1984, type 03/07/84 **ENTER**

6. Press **ENTER** at the Time prompt.
7. When TRSDOS Ready appears, remove the TRSDOS system diskette and insert the Success with Math program diskette into Drive 0. Type:

BACKUP :0:1 **ENTER**

8. The screen shows:

SOURCE Disk Master Password?

Type:

PASSWORD

You may see:

Diskette contains DATA. Use Disk or not?

or

Do you wish to RE-FORMAT the diskette?

If the questions appear, type Y for each question.

When the backup process is complete, the screen shows:

**** Backup Complete ****

9. Remove the original program diskette and store it in a safe place.

RADIO SHACK, A DIVISION OF TANDY CORPORATION

**U.S.A.: FORT WORTH, TEXAS 76102
CANADA: BARRIE, ONTARIO L4M 4W5**

TANDY CORPORATION

AUSTRALIA

91 KURRAJONG ROAD
MOUNT DRUITT, N.S.W. 2770

BELGIUM

PARC INDUSTRIEL DE NANINNE
5140 NANINNE

U.K.

BILSTON ROAD WEDNESBURY
WEST MIDLANDS WS10 7JN